

DRAFT PERMIT FACT SHEET

Permittee: Union Carbide Caribe, L.L.C. (UCCLLC)
Subsidiary of the Dow Chemical Company
Road #127; Km 17.3
Tallaboa Ponienta
Penuelas, Puerto Rico 00624

Facility Location: Road #127; Km 17.3
Tallaboa Ponienta
Penuelas, Puerto Rico 00624

EPA Facility I.D. Number: PRD980594618

BACKGROUND

The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA), codified at 42 U.S.C. Section 6901 *et. seq.* (the Act) empowers, under Section 3005 of the Act, the United States Environmental Protection Agency (EPA) to establish a permit program for hazardous waste treatment, storage, and disposal (TSD) facilities.

Pursuant to regulations given at Title 40 of the Code of Federal Regulations (40 CFR) Parts 124, 260 through 265, 268 and 270, owners/operators of hazardous waste management units (HWMUs) which receive hazardous waste after November 19, 1980 must have permits during the active life (including the closure period) of the unit. Pursuant to 40 CFR §270.1(c), owners and operators of surface impoundments, landfills, land treatment units, and waste pile units that received wastes after July 26, 1982 or that certified closure after January 26, 1983 must have post-closure permits, unless they demonstrate that no wastes have been left in place, as provided under 40 CFR §270.1(c)(5) and (6).

The permit which EPA is proposing constitutes a RCRA operating and post-closure permit, including HSWA provisions.

A. General

A.1 Facility Description

Union Carbide Caribe, L.L.C. (UCCLLC), a subsidiary of the Dow Chemical Company (the Permittee) is located at Road #127; Km 17.3, Tallaboa Poniente, Penuelas, Puerto Rico. The facility is located in a semi-rural, industrialized area, immediately west of the Tallaboa River,

and is bounded on the south and west by the marine surface waters of Tallaboa and Guayanilla Bays and the Caribbean Sea. UCCLLC began operations in 1959, and operated a petrochemical manufacturing complex encompassing approximately 680 acres. It ceased its petrochemical manufacturing operations in 1985. The total site includes approximately 944 acres.

Prior to the end of petrochemical manufacturing operations, the UCCLLC complex produced olefins (ethylene, propylene, acetylene and butadiene), aromatics, ethylene oxide, various ethylene glycols, ethylene glycol ethers, cumene, phenol, acetone, polyethylene and other phenol derivatives. No chlorinated hydrocarbons were manufactured at the facility. Operational hazardous wastes generated at the UCCLLC site consisted mainly of residues from the operating units and maintenance activities.

As stated above, UCCLLC ceased all manufacturing operations in 1985. Wastes generated by the facility since 1985 have been predominantly associated with closure and site-cleanup activities.

A.2 Effect of this Permit

This proposed permit authorizes UCCLLC to continue to operate two RCRA regulated hazardous waste management units (HWMUs), consisting of the Industrial Landfill and one surface impoundment (SI), known as the East Aeration Basin. The Industrial Landfill will largely manage hazardous wastes associated with closure and site-cleanup activities. The East Aeration Basin will largely manage effluent from the waste water treatment system associated with closure and site-cleanup activities. The two active HWMUs are expected to operate for the duration of this permit, after which they will be closed and subject to closure and post closure care pursuant to the terms of this permit and approved closure and post closure plans.

The Industrial Landfill is located in the northern (i.e., the landward) portion of the facility. The East Aeration Basin is located in the Puntilla Area, in the southwestern part of the facility, on a peninsula of land between Tallaboa and Guayanilla Bays.

The 100-year base flood level at the facility varies from approximately six (6) feet (coastal area) to sixteen (16) feet (near the river at the northern boundary of the facility) above mean sea level (MSL). As such, the hazardous waste management units at the facility are located in or immediately adjacent to the 100-year floodplain. The Industrial Landfill is protected against flooding and erosion from a 100-year storm by embankments or dikes. The East Aeration Basin is also partially protected against flooding and erosion from a 100-year storm, as it is surrounded by embankments/dikes, the tops of which are approximately nine (9) feet above MSL.

The permit also incorporates closure and post-closure activities for several units, as discussed in Section B below.

A.3 Regulatory History

UCCLLC began operations in 1959. However, prior to November 1980, a RCRA permit was not required for the management of hazardous waste. In 1980, UCCLLC submitted a “Part A” of its RCRA permit application, which authorized it to continue to manage hazardous wastes pursuant to 40 CFR Part 270 Subpart G. Since the initial submission, several modifications have been made to the Part A Application to reflect changes in operations at the facility. The most recent Part A was submitted on July 12, 1996.

In 1986, pursuant to requirements given at 40 CFR Part 270, UCCLLC submitted a “Part B” Permit Application to EPA for continued operation of its HWMUs. EPA issued UCCLLC a RCRA Permit in November, 1988 which authorized continued operation of three HWMUs (the Industrial Landfill and the East and West Aeration Basins) at the facility. Pursuant to 40 CFR § 270.10(h), the 1988 permit remains in effect pending issuance of a new RCRA permit, since the Permittee filed a Part B renewal application prior to the expiration date of that permit.

Two of the three HWMUs authorized for operation under the 1988 permit (the Industrial Landfill and the East Aeration Basin) will be authorized for continued operation under the revised Permit.

On June 18, 2001, EPA public noticed a Draft RCRA Permit for the UCCLLC facility, and announced a public comment period on that Draft Permit. That public comment period closed on August 2, 2001, forty five (45) day days following the Public Notice. EPA received comments on the June 18, 2001 Draft Permit from only the Permittee. Based on those comments, and other considerations, EPA decided to substantially revise the June 18, 2001 Draft Permit. Because the June 18, 2001 Draft Permit was substantially revised, this substantially revised Draft Permit must undergo public notice and public review. The Draft Permit public noticed on June 18, 2001 was never finalized and is replaced by the revised Draft Permit that is being public noticed at this time.

B. Hazardous Waste Management Units (HWMUs)

The UCCLLC facility contains, or formerly contained, fifteen (15) RCRA regulated hazardous waste management units (HWMUs).

B.1 Land disposal or land treatment units:

Five of the HWMUs are land disposal or land treatment units. These include the Industrial Landfill (ILF) and the four surface impoundments (SIs), as listed below:

<u>HWMU</u>	<u>Status</u>
• SI 1, West Aeration Basin:	No longer receiving waste, but closure has not yet been implemented. Closure plan to be submitted.
• SI 2, East Aeration Basin:	Currently operating and receiving waste. Closure and post closure plans are acceptable, subject to public review and comment on them with this Draft Permit.
• SI 5, Primary Solid Pond 1:	Closed and capped in 1988 with waste residues in place. Post-Closure care required. Closure Certification and Post-Closure plan are acceptable, subject to public review and comment on them with this Draft Permit.
• SI 6, Primary Solid Pond 2:	Closed and capped in 1988 with waste residues in place. Post-Closure care required. Closure Certification and Post-Closure plan are acceptable, subject to public review and comment on them with this Draft Permit.
• Industrial Landfill (ILF)	Currently operating and receiving waste. Closure and post closure plans are acceptable, subject to public review and comment on them with this Draft Permit.

More detailed descriptions of these units are set forth below. As indicated above, two of these units (the East Aeration Basin and the ILF) are presently operating and are expected to continue operating for the next ten years. When these two units cease operations they will be subject to closure and post closure care as described in Modules VI and VII of this Permit. Each of the units, those which are presently closing and those subject to closure in the future, must be closed pursuant to approved closure plans. The Closure plans or closure certification reports are either attached to this Draft Permit for public notice and comment, or if approved by EPA under the 1988 RCRA permit, are incorporated by reference.

The Permittee closed the two Primary Solid Pounds (SIs # 5 & # 6) in 1988; however, since they were closed with waste in place, post-closure care will be required. A Closure Certification Report documenting the closure of those two units, as well as the Post-closure Plan for them, will undergo public review and comment as part of the public review and comment for this Draft Permit.

Units which have closed with waste in place or will close with waste in place are subject to post closure care pursuant to Module VII of this Permit and the approved post-closure care plans. The post-closure plans which are attached to this permit are now subject to public notice and comment, and are not fully approved pending public notice and public review [including comments] on them.

B.1.A: Industrial Landfill (ILF)

The ILF has been in operation at the UCCLLC site since 1975, and manages both hazardous and non-hazardous waste. The landfill covers 16.9 acres in the northwestern section of the main plant. Between 1975 and 1981, this landfill was operated using trench and fill methods. Disposal trenches ranged from 200 to 300 feet long, 12 to 20 feet wide, and 5 to 8 feet deep. Depth to the water table in the ILF area ranges between three to six feet below ground surface, and groundwater flow direction is generally southwest.

The ILF consists of three cells, only one of which remains operational. Non-hazardous waste may be placed in the ILF if it is compatible with other wastes. Any hazardous waste placed in the ILF must be first treated to meet any applicable land disposal standards set forth in 40 CFR Part 268.

Closure of approximately 70% of the ILF was completed in January 1994 under the 1988 RCRA Part B permit. The cover for the closed portion consists of two feet of compacted clay, and two feet of caliche with native vegetation for erosion control.

At final closure, area II of the ILF and the adjacent Storm Water Retention Pond (SWRP), which itself is a solid waste management unit (SWMU #30) but not a HWMU, will be covered with a flexible membrane liner (FML), a geotextile mat above and below the FML, and a composite geonet drainage layer. The final cover for this portion of the unit will also include 18 inches of compacted caliche, six inches of uncompacted caliche, and three inches of top soil to support a vegetative cover, on top of the geotextile mat and FML. The cover will be completed to a crest elevation of approximately 30 feet above MSL. The closure plan for the ILF and SWRP, which is given in Attachment VI-1 of this Draft Permit, is undergoing public notice and review at this time, as part of the public notice and review for this Draft Permit.

At present, the estimated disposal volume necessary to complete closure of the UCCLLC plant is approximately 80,000 cubic yards. The plan is to place the material in the ICF. To accommodate this, the ILF is to be vertically expanded by building up to a crest elevation within two feet of 30 Ft. MSL. Since the unit is an existing landfill as defined by RCRA, and only a vertical expansion is planned, a lower liner and leachate collection and detection system are not required. Basic design criteria including settlement potential, load bearing capacity, stability of the landfill slopes, seismic conditions, and cap design for the vertical expansion portion of the landfill, were established in the original design and previous facility permit. Operation and maintenance requirements, and the expansion design, are included in this proposed permit.

Following final closure, the ILF will be subject to post-closure requirements for inspection, maintenance, and monitoring, as outlined in Module VII. Post-closure care for the ILF and associated SWRP area may be required for a period of at least 30 years. The unit will also be subject to groundwater monitoring as set forth in Module VIII.

B.1.B: Surface Impoundments (SIs):

1) SI # 1 and # 2 (West and East Aeration Basins)

Surface Impoundments 1 and 2, referred to as West Aeration Basin (SI 1) and East Aeration Basin (SI 2), are aggressive aerobic biological treatment units and part of the wastewater treatment process. Each unit has surface dimensions of approximately 355 feet by 225 feet; the bottom surface area is approximately 47,000 square feet, and the top surface area is approximately 79,875 square feet. The bottom elevation for both SIs lies approximately 8 feet below MSL; the top elevation is approximately 8 feet above MSL. The bottom design for both impoundments consists of approximately 6 feet of well-graded cobbles, gravel, and pebbles. Side slopes are lined with concrete at a slope of 2:1. The impoundments are surrounded by vertical bentonite slurry walls, originally installed to prevent groundwater from flowing into the excavations.

On November 5, 1986, the Permittee submitted a request for exemption from the minimum technology requirements (MTR) section 3004(o)(1)(A) of RCRA, which require liner, leachate detection and collection systems, for both basins. This waiver was granted on November 6, 1987. The previous RCRA permit (which became effective November 1, 1988) allowed the facility to continue operation of the two aeration basins.

SI 1 is no longer operational, but has not yet been acceptably closed. SI 1 previously received wastewater after primary treatment from chemical storage, discharges from laboratory operations, and groundwater from remediation activities. SI 2 remains active at this time and

still accepts these types of wastes. Sludge remains in both SI 1 and 2. SI 2 also contains free liquid.

Each of these units will be closed pursuant to the terms of this permit, and for SI 2, the closure plan given in Attachment VI-2 of the Draft Permit, subject to the results of public review and comment. For SI 2, following cessation of its usage, closure will include elimination of free liquids, solidification of remaining sludge with caliche, and the unit will then be backfilled with caliche to final grade and a cap/final cover will be constructed. The final cover will consist of a bottom geotextile, a flexible membrane liner (FML) or cap geomembrane; a composite geonet drainage layer, and a top layer consisting of 18 inches of compacted caliche, six inches of uncompacted caliche, and three inches of top soil. Vegetation will provide erosion control on the top surface.

For SI 1 (West Aeration Basin also referred to as Aeration Basin No. 1) the Permittee has indicated that they plan to clean close this unit by removing all remaining sludge and waste residues. The Draft Permit requires that the Permittee submit a [new] closure plan for SI 1 pursuant to the schedule set forth in Module IV. Following its submission and review by EPA, the closure plan for SI 1 will be subject to future public notice and review, prior to EPA's final approval. If following the [new] SI 1 closure plan's final approval, and implementation of the closure plan activities, the Permittee acceptably demonstrates that all the sludge and waste residues have been removed from SI 1, a RCRA cap and/or post closure care may not be required for that unit.

Upon completion of closure, SI 2 will be subject to post-closure requirements pursuant Module VII of the Draft permit, as well as the post-closure plan given in Attachment VI-2 of the Draft Permit. Post-closure care for SI 1 will be contingent upon the results of closure, following submission of an acceptable closure plan and its implementation. Both SI 1 and 2 are also subject to the groundwater monitoring requirements set forth in Module VIII of this permit.

2) Surface Impoundments 5 and 6 (Primary Solid Ponds)

Surface Impoundments 5 and 6 [referred to as Primary Solid Pond 1, or West Primary Solids Pond (SI 5) and Primary Solid Pond 2, or East Primary Solids Pond (SI 6)], formerly managed hazardous waste solids and sludges from the manufacturing plant and the wastewater treatment plant (WWTP). SI 5 was used primarily to store sludges from the WWTP, and also wastes from truck washes. SI 6 formerly managed settleable solids from the WWTP primary clarifiers. These wastes included hazardous waste sludges and effluent from the wastewater pretreatment system.

SIs 5 and 6 each had a bottom area of approximately 33,000 square feet, and a top area of approximately 54,000 square feet. The bottom of each impoundment, as well as the dike walls, were constructed of re-compacted soil.

The two Primary Solid Ponds (SIs 5 and 6) have already been closed. The closure activities at SIs 5 and 6 were implemented in 1988, prior to EPA's final approval of the closure plans. The original closure plan for these units was submitted to EPA in January 29, 1988 and a revised closure plan was submitted in January 1990. The revised plan was public noticed in 1991, though never formally approved by EPA. The closure activities implemented in 1988 included solidification and removal of sludges and affected soils; disposal of solidified sludge and excavated soil in the on-site Industrial Landfill, and back-filling of the impoundments with caliche. The two units were then capped with a cover system, which consists of a 24 inch layer of compacted brown clay, to function as a hydraulic barrier; an 18 inch layer of compacted yellow caliche to function as drainage layer; and a 6 inch layer of uncompacted yellow caliche layer, with a vegetated grass cover. The two units were closed in 1988 as landfills, i.e., with waste or waste residue left in place [including in the groundwater]. Having been closed as landfills, these two units will be subject to post-closure care requirements pursuant to the Post-closure Plan included in Attachment VII-1 of this Draft permit, and other terms of the permit.

In June 1999 the Permittee submitted a Closure Certification Report for SI 5 and 6, documenting the closure of both units. The Closure Certification Report along with the Post-closure plan for Primary Solid Ponds 1 and 2 (both are included in Attachment VII-1 of the Draft permit) have been determined to be acceptable to EPA, and are being public noticed and undergoing public review at this time, as part of the public notice and public review of the Draft Permit. Subject to the completion of public review and comment, the January 1990 revised closure plan for SIs 5 and 6, the June 1999 Closure Certification Report, and the post closure plan included as Attachment VII-1 of this Draft Permit, will then be fully approved. Post-closure groundwater monitoring requirements for SIs 5 and 6 are given in Module VIII of this Draft Permit.

3. Surface Impoundments and Landfills formerly classified as HWMUs:

The two Equalization Basins (SI #3 and #4) and the Dewatered Sludge Landfill (SWMU#21) were classified as HWMUs in the 1988 permit. However since that time EPA has determined that these units are not HWMUs, as they were only classified as HWMUs based upon EPA's "Mixture" and "Derived-From" rules, which have now been vacated by court decisions for the relevant time periods. Accordingly, in the renewed Permit these units are treated as solid waste management units and not HWMUs.

4. Other Units formerly classified as HWMUs:

Additionally, the filter press area (SWMU # 24) was classified in the 1988 permit as a HWMU, but not included in the renewed Permit. The filter presses were cleaned of all sludge and hazardous materials in or around 1985. In addition, all filter press equipment was removed during the second stage of site demolition in 1989 and 1990. By letter dated April 26, 1988, EPA qualified these filter presses for exemption from regulation as hazardous waste units under 264.1(g)(6) & 265.1(c)(10). They were additionally exempted from permitting requirements pursuant to 270.1(c)(2)(v).

B.2 Non-land disposal/land treatment HWMUs

Ten non-land disposal/land treatment units, which are or were formerly located at the facility, are also classified as HWMUs:

- A. Eight former above-ground hazardous waste tanks, which were removed during site-wide decommissioning activities undertaken between 1987 and 1990, were HWMUs, and consist of:

Three (3) Environmental Protection Department (EPD) Residues Storage Tanks (SWMU#17) also known as tanks 18D-1001, 18D-1002 and 18D-1010;

Three (3) Energy Systems (ES) Department Residues Storage Tanks (SWMU#19) also known as tanks 31D-472, 31D-474, and 31D-480; and

Two (2) Phenol/Acetone (P/A) Department Residues Storage Tanks (SWMU#18) also known as tanks 14D-324 and 14D-754.

The eight (8) hazardous waste storage tanks were removed during site-wide decommissioning activities undertaken between 1987 and 1990 at the facility. The tanks were emptied, hydroblasted, and closed during site demolition activities. Ancillary piping was flushed and disconnected, and concrete secondary containment structures were hydroblasted. All wash water was collected in sumps for proper management. To ensure that “clean closure” was achieved, the closure plans set forth in Attachment VI-3 and VI-4 of this Draft Permit require verification sampling of the soils beneath the diked containment systems for the 8 former tanks to determine if waste or waste residues are present. If verification sampling indicates waste or waste residues are present, remedial action, such as excavation and removal of the contaminated soil, will have to be implemented. Subject to public notice and comment on the closure plan set forth in Attachment VI-3 and VI-4 of this Draft Permit, further action for the above 8 tanks will only be required if verification sampling demonstrates waste or waste residues are present.

B. Container Storage Area (SWMU#16); and

The container storage area was closed during the site-wide decommissioning activities undertaken between 1987 and 1990. Wastes stored in this area included off-specification monochlorobenzene (U037) and waste ethylene dichloride (U077). The containers were stored on wooden pallets and protected with plastic covers to prevent deterioration. Containers were removed for disposal at an approved RCRA disposal facility, all wooden pallets and plastic covers were disposed at the on-site industrial landfill, and contaminated soil was removed from the storage area. However, acceptable verification sampling was not implemented; therefore, to demonstrate “clean closure”. Under requirements given in Attachment VI-5 of this Permit, the Permittee is required to implement soil sampling to demonstrate “clean closure” of the Container Storage Area. Subject to public notice and comment on this Draft Permit, further actions regarding closure and/or post-closure care of the Container Storage Area will only be required if verification sampling demonstrates that wastes and/or waste residues remain at or around the site of the former Container Storage Area.

C. One Ground Burner Unit (SWMU#26).

The ground thermal treatment facility was located directly west of the Primary Solids Ponds. The ground burners were used to dispose of liquid organic residue from the EPD residue storage tanks that could not be burned in the plant boilers. The burners were operated in such a way that all materials were fully incinerated. The ground burners were closed in 1988 during the site-wide demolition activities. All piping, equipment, and thermal treatment structures were flushed and dismantled. Soil, ash, and grass from inside the ground burner pit were removed, along with several inches of soil from the area beneath the ground burner pit. All solid materials were disposed in the on-site industrial landfill, and wastewater from decontamination operations was collected by vacuum truck and transferred to the on-site wastewater treatment plant. The Closure Plan for the ground burner area, set forth in Attachment VI-6 of the Draft Permit, addresses already implemented and remaining closure activities, including soil sampling to demonstrate “clean closure”. If the soil sampling indicates the presence of waste or waste residues beneath the excavated soil, additional steps involving remedial actions will be required. Subject to public notice and comment on the Closure Plan set forth in Attachment VI-6 of this Draft Permit, further action for the groundburner unit will only be required if verification sampling demonstrates that waste or waste residues are present.

This unit is also subject to groundwater monitoring for a minimum period of three years or until such time that the concentration of indicator compounds defined in the site permit decreases below groundwater protection standards for a consecutive three year period. These requirements are set forth in Module VIII of the permit.

D. The above ten non-land disposal/land treatment HWMUs are no longer operational; they have all been closed. However, verification sampling, described in the below listed Closure Plans has never been implemented, and is still needed to demonstrate that the HWMUs were clean closed. Post closure care will not be required if these units are demonstrated to have been clean closed without waste in place.

B.3 Closure Plans/Post-Closure Plans/Closure Certifications:

Closure plans, post-closure plans, and closure certifications for the above described 5 land disposal or land treatment HWMUs [described in Section B.1 above] and 10 non-land disposal/land treatment HWMUs [described in Section B.2 above] are listed below. Those closure plans, post-closure plans, and closure certifications which are subject to public notice and comment at this time as part of the public notice and comment for this Draft Permit are indicated by an asterisk [*].

<u>Plan Date</u>	<u>HWMU Applicable to</u>	<u>Present Status</u>
New Plan required	SI 1, West Aeration Basin	No longer receiving waste, but Closure has not yet been implemented. Clean Closure proposed. New Closure Plan required by Module VI.
11/20/97*	SI 2, East Aeration Basin	Currently operating and receiving waste.
1/4/2000*	Industrial Landfill (ILF)	Currently operating and receiving waste
11/6/90*	3 EPD Residues Storage Tanks 18D-1001, 18D-1002, and 18D-1010	Closed but Verification Sampling still needed to demonstrate Clean Closed
4/27/88*	3 ES Residues Storage Tanks 31D-472, 31D-474, and 31D-480	Closed but Verification Sampling still needed to demonstrate Clean Closed
11/6/90*	2 Phenol/Acetone Residues Storage Tanks 14D-324 and 14D-754	Closed but Verification Sampling still needed to demonstrate Clean Closed
10/31/86*	Container Storage Area.	Closed but Verification Sampling still needed to demonstrate Clean Closed

10/31/86*	Ground Burner Unit	Closed but Verification Sampling still needed to demonstrate Clean Closed
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Closure Certification and Post-Closure Plans

<u>Plan Date</u>	<u>HWMU Applicable to</u>	<u>Present Status</u>
6/18/99*	SI 5, Primary Solids Pond 1	Closed and capped in 1988 with waste residues in place. Post-Closure care required. Closure Certification and Post-Closure plan are not yet fully approved, pending public review and comment on them, with this Draft Permit.
6/18/99*	SI 6, Primary Solids Pond 2	Closed and capped in 1988 with waste in place. Post-Closure care required. Closure Certification and Post-Closure plan are not yet fully approved, pending public review and comment on them, with this Draft Permit.

C. Corrective Action for Solid Waste Management Units (SWMUs)

Pursuant to 40 CFR § 264.101, the owner or operator of a facility seeking a RCRA permit must institute corrective action for all releases of hazardous waste or constituents from any SWMU at the facility, regardless of the time at which wastes were placed in such unit. Pursuant to that requirement, a RCRA Facility Assessment (RFA) was completed in February 1988. The RFA identified 31 solid waste management units (SWMUs) at the facility. Subsequent to the RFA, five additional SWMUs were identified, for a total of 36 SWMUs. To facilitate clean-up and remediation, these SWMUs have been divided into four groups. A brief summary of ongoing activities for each of these groups is provided below. (Some of these SWMUs are also HWMUs)

1. SWMU Group I. SWMU Group I is comprised of four units: the filled portion of the North Cooling Water Return Lateral Canal (NCWRL) (SWMU #5); the Dripolene Pond (SWMU #15); the ILF (SWMU #20); and the Storm Water Control Pond (SWMU #30). These units are grouped in the Permit due to their geographic proximity and common groundwater monitoring program.

Based on an evaluation of alternative methods for groundwater remediation at the ILF, installation of a groundwater recovery well system was initiated in 1989. This area is contaminated with the following constituents: Acenaphthene, Acenaphthylene,

Anthracene, Benzo(a)anthracene, Benzene, Chrysene, Ethylbenzene, Fluoranthene, Fluorene, 2-Methylnaphthalene, Naphthalene, Phenanthrene, Pyrene, Styrene, Toluene, and Xylenes. The remediation plan is focusing on removing these constituents from the groundwater. This system has been in continuous operation since October 25, 1990, and will be continued under requirements of this permit.

2. SWMU Group II. SWMU Group II consists of 10 units located in the Puntilla area. Four of the SWMUs are located within the compliance monitoring area referred to as the Puntilla Waste Management Area. The other six are also located in the Puntilla area, but are not part of the “compliance monitoring area.”

Compliance monitoring conducted in 1988 indicated the presence of hazardous waste constituents in one well. This was verified by resampling of the well in March 1989. A Corrective Action Plan was subsequently submitted to EPA in August 1989, followed by installation of a groundwater recovery pump and associated piping (connected to the WWTP) in December 1992. The system was designed to provide hydraulic containment, removal, and recovery of mobile phases of groundwater contamination. This system began operation in December 1992.

Under requirements of this permit, UCCLLC shall continue operation of the groundwater recovery system until the applicable groundwater protection standards of the Puntilla Waste Management Area, set forth in Module VIII of this Permit, are met at this well location.

3. SWMU Group III. SWMU Group III consists of 14 units that were identified during the initial RCRA Facility Assessment (RFA) and four that have been identified since, for a total of 18 SWMUs. Since no sampling was performed during the initial RFA, UCCLLC conducted a “Detection RFI” based on a Work Plan approved by EPA in 1989 to determine whether releases had occurred from these SWMUs. For those SWMUs for which the “Detection RFI” indicated that releases have occurred, UCCLLC began work on a full RFI. Phase I of the full RFI has identified those SWMUs for which releases have occurred above risk-based levels. The SWMUs with releases above risk-based levels are included in Phase II of the full RFI, which is still on-going.
4. SWMU Group IV. SWMU Group IV includes four units (SWMUs No. 2,3, 27 and 29) that consist of either underground pipelines or process sewers. No corrective action activities were required under the expiring permit. However, under Module III of this permit, corrective action investigations are required for these four SWMUs. Investigation is included within Phase II of the full RFI, which is still on-going.

Contaminated groundwater resulting from the above corrective actions are directed to the facility's existing WWTP for treatment, prior to discharge to Tallaboa Bay, through an NPDES permitted outfall at the facility.

D. Groundwater Monitoring Program

Pursuant to 40 CFR § 264.90, the Permittee was required to design and operate a groundwater monitoring program which would ensure the earliest possible detection of contaminant leakage from the active land-disposal or treatment HWMUs (Industrial Landfill and East Aeration Basin) and post-closure HWMU units (West Aeration Basin and the Primary Solid Ponds). The groundwater monitoring program required under the renewed permit is described in Module VIII of this Draft Permit. It represents a continuation of monitoring that has occurred for numerous years at the facility. It takes into consideration the complex geology and hydrogeology of the site, as well as historical releases to the groundwater from other sources, in the same vicinity as the regulated units. If the Permittee acceptably demonstrates achievement of clean closure for the East Aeration Basin, continued groundwater monitoring of that unit would no longer be required, following EPA's acceptance of such clean closure demonstration.

The Groundwater Monitoring Program required under this Permit includes sixteen groundwater monitoring wells located along the point of compliance for three Groundwater Monitoring Groups. These Groundwater Monitoring Groups include both HWMUs and Solid Waste Management Unit (SWMUs).

- 1) the Industrial Landfill Waste Management Area, which includes the currently operating Industrial Landfill and three adjacent SWMUs: the Dripolene Pond, the Stormwater Retention Basin, and the filled portion of the North Cooling Water Return Lateral Canal;
- 2) the Puntilla Waste Management Area, which includes the currently operating East Aeration Basin (SI 2) and the following six contiguous units: the Equalization Pond No. 1, the Equalization Pond No. 2, the Dewatered Sludge Landfill, the Primary Solids Pond No. 1, and the Primary Solids Pond No. 2.); and
- 3) the Groundburner Monitoring Area, which includes the site of the ground burners.

D.1 Industrial Landfill Waste Management Area

Groundwater monitoring wells were initially installed in the Industrial Waste Management Area in 1982, and monitored on a quarterly basis pursuant to 40 CFR § 265 Subpart F. Releases to the groundwater from the Industrial Waste Management Unit were identified in 1984, prior to issuance of the 1988 RCRA Operating Permit. The 1988 Permit established groundwater protection standards and required implementation of a Compliance Monitoring Program, with

quarterly groundwater sampling, to determine compliance with those groundwater protection standards. Exceedance of those groundwater protection standards at the Industrial Waste Management Area then triggered the establishment of a corrective action program in October 1990.

The corrective action program at the Industrial Landfill Waste Management Area was subsequently modified pursuant to Union Carbide's original (April 1993) Part B Renewal Application, and has been further modified by Union Carbide's letter of January 5, 1999, as well as the most recent Part B Permit Renewal Application Amendment (March 3, 2000). Since October 1990, the Permittee has implemented a program of hydraulic stabilization, recovery and treatment of contaminated groundwater, to ensure this area complies with the applicable groundwater protection standards. Groundwater compliance monitoring has also been occurring since 1990. The compliance monitoring indicates that the plume of contaminated groundwater is currently contained within the compliance points of the Industrial Waste Management Area. Accordingly, monitoring may occur on a semi-annual basis instead of quarterly as previously required. Applicable groundwater protection standards are set forth in Module VIII of this Permit.

D.2 Puntilla Waste Management Area

Groundwater monitoring wells were initially installed in the Puntilla Waste Management Area in 1982, and monitored on a quarterly basis pursuant to 40 CFR Part 265, Subpart F requirements until 1988. No releases were detected. Therefore, under the 1988 permit, semi-annual Detection Monitoring was required for the Puntilla Waste Management Area. However, in March 1989, releases of several hazardous constituents (benzene, ethylbenzene, toluene, and naphthalene) were confirmed in well B-6. As a result, the Permittee initiated a quarterly Compliance Monitoring program and a corrective action program in August 1989. In November 1989, the Permittee submitted a permit modification request for alternate concentration limits (ACLs) for fifteen constituents, which have been subsequently utilized as the groundwater protection standards applicable to the Compliance Monitoring program at the Puntilla Waste Management Area.

Quarterly groundwater Compliance Monitoring at the Puntilla Waste Management Area has found no exceedance of the approved ACL groundwater protection standards at the point of compliance wells. Therefore, groundwater monitoring at the Puntilla Waste Management Area may be implemented on a semi-annual basis, instead of quarterly as previously required. Subsequent semi-annual monitoring (1999 and 2000) has continued to indicate no exceedance of the ACL groundwater protection standards at the Puntilla Waste Management Area. Therefore, as proposed in the Part B Permit Renewal Application Amendment dated March 3, 2000, under this Permit, groundwater monitoring for the Puntilla Waste Management Area will only be required on an annual basis, rather than semi-annually, except for wells PBW-6, G-N,

and G-S, which shall continue to be monitored semi-annually. The groundwater protection standards to be applicable for the Puntilla Waste Management Area are given in Module VIII of this Permit.

D.3 Ground Burner Monitoring Area

As part of an approved Detection Monitoring program, two wells (G-N, and G-S) will be installed and monitored for a minimum of three years as part of the requirements of this permit. Monitoring will be semi-annual. The groundwater protection standards are the same as those for the Puntilla Waste Management, with the addition of the eight metal constituents, and are given in Module VIII of this Permit.

E. SWMUs Requiring No Further Action (NFA)

As part of the public notice and public comment on this Draft Permit, EPA requests public comment on no further action (NFA) determinations conditionally approved, subject to public review and comment, for the following SWMUs. These no further action determinations are contingent on continuing future industrial usage of the facility property. If the facility property ceases to be used for industrial purposes, the NFA determinations would have to be reviewed, and further remedial actions could be required.

Proposed NFA Determinations for Group I SWMUs:

None.

Proposed NFA Determinations for Group II SWMUs:

None.

Proposed NFA Determinations for Group III SWMUs:

SWMU No. 1 (Incinerator) - Although releases to the soil were indicated based on the 1993 “Detection” RFI Final Report; these releases were determined to be at less than risk-based concentrations, and no risk to human health or the environment was indicated. No releases to the groundwater were detected. Therefore no further action is required.

SWMU No. 6 (Polyethylene Area) - NFA is recommended, as discussed in EPA’s letter of December 30, 1998.

SWMU No. 7 (Tallaboa River Landfill) -- Although releases to the soil were indicated based on the 1993 “Detection” RFI Final Report; these releases were determined to be at less than

risk-based concentrations, and no risk to human health or the environment was indicated. No release to the groundwater were detected. Therefore no further action is required.

SWMU No. 8 (Carbon Ponds) - NFA is recommended, as discussed in EPA's letter of December 30, 1998

SWMU No. 9 [Dredge Material Small Boat Landing (Area A)] - NFA is recommended, as discussed in EPA's letter of December 30, 1998

SWMU No. 10 [Dredge Material Energy Systems (Area B)] - NFA is recommended, as discussed in EPA's letter of December 30, 1998

SWMU No. 13 [Dredge Material Near Tallaboa River LF (Area E)] - NFA is recommended, as discussed in EPA's letter of December 30, 1998.

SWMU No. 14 Dredge Material West of WWTP (Area F) - NFA is recommended, as discussed in EPA's letter of September 25, 2000.

SWMU No. 28 (Chemical Addition Station Sump Leakage) - NFA is recommended, as discussed in EPA's letter of December 30, 1998.

SWMU No. 31 (Old Anaerobic Basin) - NFA is recommended, as discussed in EPA's letter of December 30, 1998.

SWMU No. 32 (Old Ground Burners) - NFA is recommended, as discussed in EPA's letter of December 30, 1998

SWMU No. 33 (Puntilla Disposal Area) - NFA is recommended, as discussed in EPA's letter of December 30, 1998

SWMU No. 34 (Puntilla Tank 1501) - NFA is recommended, as discussed in EPA's letter of December 30, 1998

SWMU No. 35 (Hydrotreater Area) - NFA is recommended, as discussed in EPA's letter of August 8, 2002

SWMU No. 36 (WWTPF Underground Effluent Pipe Leak) - NFA is recommended, as discussed in EPA's letters of August 7, 1998 and December 30, 1998

Proposed NFA Determinations for Group IV SWMUs:

SWMU No. 3 (Underground Line at Energy Systems Units) - NFA is recommended, as discussed in EPA's draft letter of July 16, 2002

SWMU No. 29 (Glycols Unit sewer Leakage) - NFA is recommended, as discussed in EPA's letter of August 8, 2002.

F. Basis for Decision to Issue the Permit

EPA has carefully reviewed the Permit application in light of the facility's history, and has determined that the Permittee is the owner and/or operator of four hazardous waste Surface Impoundments, one landfill, a former groundburner, and tanks and storage areas. Because the units were in operation on November 19, 1980, the UCCLLC facility constituted an existing hazardous waste management facility, pursuant to 40 CFR Section 270.2. Therefore, pursuant to 40 CFR Section 270.70, the units qualified for Interim Status. Pursuant to 40 CFR Sections 265.1 and 270.10, the Permittee's facility was subject to the applicable Interim Status operating and closure requirements of 40 CFR Section 265.

Section 3005 of RCRA mandates that the EPA establish a program requiring permits for TSDs. Regulations to implement this permit program are contained in the 40 CFR Parts 261, 264, 265, and 270. In compliance with these regulations, UCCLLC submitted a Part B renewal application on April 26, 1993.

G. Tentative Decision

Subject to public notice and comment pursuant to requirements given at 40 CFR Section 124.10, and pursuant to the authority of the RCRA, as amended by HSWA, EPA intends to issue a RCRA permit to the Permittee for the operation and post-closure care for the Permittee's TSD facility located in Penuelas, Puerto Rico. Attached to the Draft permit are Closure Plans, Post Closure Plans, and Closure Certification Reports for the above identified HWMUs. All of these plans are subject to public review and comment and are not considered approved by EPA until completion of public review and comment. All final plans approved by EPA that are not attached to this Draft Permit are incorporated by reference into the permit. The term of this permit will be ten years from its effective date. EPA will review the status of the land disposal unit in five years from the effective date of this Permit.

Any RCRA permit issued by the Director shall also address corrective action for all releases of hazardous waste or hazardous constituents from SWMUs at a facility seeking a permit, regardless of the time at which waste was placed in such unit. Therefore, continued corrective action investigations and corrective measures are being required for SWMUs at the Permittee's

facility. The requirements for corrective action for SWMUs at the Permittee's facility are discussed above and given in Module III of this Permit.

H. Procedures for Reaching a Final Permit Decision

Pursuant to 40 CFR Section 124.8(b), the following constitutes the description of the procedures for reaching a final decision on the permit. If, after the conclusion of the proceedings summarized below, the Director makes a final decision to issue a permit, the Permittee will be required to comply with all the conditions in that permit.

Pursuant to requirements given at 40 CFR Section 124.10, Public Notice has been given informing the public that EPA has prepared a draft RCRA Permit to be issued to UCCLLC for its facility located in Penuelas, Puerto Rico. The Public Notice invites comments from interested citizens and submission of requests for a public hearing on this Tentative Decision. The draft permit contains conditions necessary to carry out the provisions of the RCRA program.

The Administrative Record required by 40 CFR Section 124.9, consists of this Fact Sheet, the Public Notice, the permit application including documents and data submitted by the facility owner or operator, other data and material assembled or prepared by EPA, and the RFA and RFI reports for the Permittee's facility. The Administrative Record contents may be inspected at:

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 2
RCRA PROGRAMS BRANCH
290 BROADWAY, 22nd. Floor
NEW YORK, NEW YORK, 10007

any time between 8:30 A.M. to 4:00 P.M. Monday through Friday, except holidays. Copies of these documents are available at \$0.20 per copy sheet. Pursuant to requirements given at 40 CFR Section 124.8(b)(7), to obtain additional information on the Tentative Decision, and/or to make an appointment to inspect the Administrative Record, please telephone Mr. Richard Krauser at (212) 637- 4166, or Mr. Ernst Jabouin at (212) 637-4104, or submit a written request to the above address.

The Administrative Record is also on file at the

Puerto Rico Environmental Quality Board (PREQB)
Land Pollution Regulation Program
National Plaza Building
431 Ponce de Leon Avenue

Hato Ray, Puerto Rico, 00917

To inspect the Administrative Record at PREQB, please telephone Mr. Osvaldo Fantauzzi at (787) 766-2817.

A copy of the Draft Permit is also available for inspection at:

The United States Environmental Protection Agency
Caribbean Environmental Protection Division (CEPD)
Centro Europa Bldg, Suite 417
1492 Ponce De Leon Avenue, Stop 22
Santurce, PR 00907-4127

To inspect the Draft Permit at CEPD, please telephone Mr. Daniel Rodriguez, at (787) 977 5849.

Pursuant to requirements given at 40 CFR Section 124.8(b)(6), any written comments and requests for a Public Hearing must be submitted not later than 45 days from the date of this Public Notice, to:

Acting Chief
RCRA Programs Branch
U.S. Environmental Protection Agency, Region 2
290 Broadway, 22nd Floor
New York, New York, 10007

Requests for a Public Hearing must state the nature of the issues to be raised at the hearing.

After 45 days from the date of Public Notice, the public comment period will close, unless extended by the Director. Pursuant to requirements given at 40 CFR Section 124.15, the Director shall then issue a final permit decision, or, if on the basis of requests made during the public comment period, there is a significant degree of public interest in, or opposition to, the draft permit, the Director may hold a public hearing pursuant to requirements given at 40 CFR Section 124.12.

EPA will provide public notice of any Public Hearing at least 45 days prior to the date of the hearing. Written comments submitted during the public comment period and statements provided at the public hearing, if held, will be considered by the Director in the formulation of the final permit decision. If the final permit decision changes substantially, the Director will issue a public notice indicating the revised determination.

Within 30 days of the final permit decision, any person who filed comments on the Draft EPA Permit may, pursuant to 40 C.F.R. 124.19, petition the EAB to review the conditions of the permit decision upon which that person commented. Any person who failed to file comments on the Draft Permit may petition for administrative review only to the extent of the changes from the draft to the final permit decision. Furthermore, that section provides that a person seeking appeal must exhaust administrative appeal procedures prior to invoking judicial review.

I. Coordination with the Puerto Rico Environmental Quality Board

The Puerto Rico Commonwealth is not presently authorized for the RCRA hazardous waste permitting or corrective action programs. However, EPA cooperates with the Puerto Rico Environmental Quality Board (EQB) in implementing the RCRA hazardous waste permitting and corrective action programs. Therefore, the Permittee must send copies of all correspondence and documents regarding implementation of its RCRA hazardous waste permitting and corrective action activities to both EPA and the Puerto Rico EQB.